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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
NGUYEN, TRONG NHAN P

ART UNIT	PAPER NUMBER
2152	

DATE MAILED: 09/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/842,862	INOUE ET AL.
	Examiner	Art Unit
	Jack P Nguyen	2152

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>27 April 2001</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-20</u> is/are rejected.

7)☒ Claim(s) <u>14</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892) ✓

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-20 are being examined.

Claim Objections

3.   Claim 14 is objected to because of the following informalities: the claim states,

"...wherein when the request message If the DHCP request message..." Examiner

regards "If" as a typo for "is". Appropriate correction is required.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

5.   Claims 1-4, 8, 15, 17-20 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

6.   They are as indicated below:

- Per claim 1, in lines 8 and 11, applicant uses the words "can be" failing to point

  out distinctly what the intended function is.

- Per claim 2, in lines 10, applicant uses the words "can be" failing to point out distinctly what the intended function is.

- Per claim 3, in lines 24, applicant uses the words "can be" failing to point out distinctly what the intended function is.

- Per claim 4, in lines 10, applicant uses the words "can be" failing to point out distinctly what the intended function is.

- Per claim 8, in lines 2, 4, 11, and 19, applicant uses the words "can be" failing to point out distinctly what the intended function is.

- Per claim 17, in lines 20 and 22, applicant uses the words "can be" failing to point out distinctly what the intended function is.

- Per claim 18, in lines 5 and 7, applicant uses the words "can be" failing to point out distinctly what the intended function is.

- Per claim 19, in lines 6 and 8, applicant uses the words "can be" failing to point out distinctly what the intended function is.

- Per claim 20, in lines 31 and 34, applicant uses the words "can be" failing to point out distinctly what the intended function is.

- Per claim 15, the claim is generally narrative and indefinite, failing to conform with current U.S. practice. It appears to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. Claim 15 states "...containing a radio tarrying out the protocol processing o network according to the request message on behalf of the radio terminal at the packet

relay device" is vague and indefinite. Applicant is advised to cancel or amend

the claim.

Claim Rejections - 35 USC § 102

7.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8.   Claims 1-6, 8-20 are rejected under 35 U.S.C. 102(b) as anticipated by Nounin et

al, 5,802,469 (Nounin hereafter).

9.   As per claim 1, Nounin teaches a network system, comprising: a radio terminal

(105, fig. 3) having a first communication interface usable for reception only (107, fig. 3,

col. 8, lines 24-36; *the downlink network is unidirectional and is now referred to as first*

sub-network) and a second communication interface usable for transmission and

reception (106, fig. 3, col. 8, lines 24-36; *the bi-directional mobile network is now*

referred to as second sub-network); a first sub-network to which the radio terminal can

be connected through a radio base station (103, fig. 3) of a downlink radio network by

using the first communication interface (107, fig. 3); a second sub-network to which the

radio terminal can be connected through a bidirectional communication network by

using the second communication interface (106, fig. 3), the second sub-network being

connected with the first sub-network through a backbone network (1, fig. 2; or Internet);

and a packet relay device (101, fig. 4) configured to receive a request message

requesting a protocol processing with respect to the first sub-network from the radio

terminal through the second sub-network, and carry out the protocol processing on the

first sub-network according to the request message on behalf of the radio terminal, such

that a response message corresponding to the request message obtaining by the

protocol processing is returned from the first sub-network to the radio terminal through

the downlink radio network or the bidirectional communication network (col. 8, lines 65 –

col. 9, lines 12; *first base station (FBS) is functionally equivalent to packet relay device*

(PRD) such that after receiving the request message from the mobile device, the FBS

relays the request via the Internet or backbone network to the second base station

(SBS) for response).

10.   As per claim 3, Nounin teaches a packet relay device (101, fig. 3) for use in a

network system containing a radio terminal (105, fig. 3) having a first communication

interface usable for reception only (107, fig. 3; see claim 1 for more details) and a

second communication interface usable for transmission and reception (106, fig. 3; see

claim 1 for more details), a first sub-network to which the radio terminal can be

connected through a radio base station (103, fig. 3) of a downlink radio network by

using the first communication interface, and a second sub-network to which the radio

terminal can be connected through a bidirectional communication network by using the

second communication interface, the second sub-network being connected with the first

sub-network through a backbone network (1, fig. 3), the packet relay device comprising:

a communication interface configured to receive an encapsulated IP packet containing a

request message requesting a protocol processing with respect to the first sub-network,

which is transferred from the radio terminal located in a radio area of the radio base

station through the second sub-network; a processing unit configured to decapsulate

the encapsulated IP packet received by the communication interface so as to take out

the request message, and carry out the protocol processing on the first sub-network

according to the request message on behalf of the radio terminal (col. 8, lines 65 – col.

9, lines 12; it is *inherent from the teaching of Nounin upon receiving the encapsulated IP*

packet from the mobile terminal, the FBS decapsulates it before sending it on to the

SBS).

11.   As per claim 8, Nounin teaches a radio terminal (105, fig. 3) for use in a network

system containing a first sub-network to which the radio terminal can be connected

through a radio base station of a downlink radio network (5, fig. 3; *the downlink network*

is unidirectional and is now referred to as first sub-network), a second sub-network to

which the radio terminal can be connected through a bidirectional communication

network (4, fig. 3; *the bi-directional mobile network is now referred to as second sub-*

network), the second sub-network being connected with the first sub-network through a

backbone network (1, fig. 3), and a packet relay device (101, fig. 3; *see claim 1 rejection*

for more details on PRD) for carrying out a protocol processing on the first sub-network

on behalf of the radio terminal, the radio terminal comprising:

a first communication interface usable for reception only (107, fig. 3; *see claim 3*

rejection for more details on first and second interfaces and sub-networks), by which the

radio terminal can be connected to the first sub-network, which is configured to receive

a notification message indicating an existence or an address of the packet relay device

on the first sub-network through the downlink radio network when the radio terminal

enters a radio area of the radio base station (col. 8, lines 24-41*);*

a second communication interface usable for transmission and reception, by which the

radio terminal can be connected to the second sub-network (106, fig. 3), which is

configured to transmit a request message requesting a protocol processing with respect

to the first sub-network after receiving the notification message at the first

communication interface, by encapsulating the request message into an IP (Internet

Protocol) packet destined to the address of the packet relay device obtained according

to the notification message and transmitting the IP packet through the second sub-

network (*it's inherent from the teaching of Nounin that the radio terminal encapsulates*

the request message into an IP packet before sending it to the PRD); and a processing

unit configured to process a response message corresponding to the request message

obtained by the protocol processing (col. 8, lines 54 – col. 9, lines 12).

12.   As per claim 15, Nounin teaches a packet processing method in a network

system containing a radio terminal (105, fig. 3) carrying out the protocol processing

network according to the request message on behalf of the radio terminal at the packet

relay device; and returning a response message corresponding to the request message

obtained by the protocol processing from the first sub-network to the radio terminal

through the downlink radio network or the bidirectional communication network (col. 8,

lines 65 – col. 9, lines 12).

13.   Claims 17 and 19 are processing method and computer usable medium

variations of a packet relay device with no further limitations and therefore are rejected

on the same basis as claim 3.

14.   Claims 18 and 20 are processing method and computer usable medium

variations of a radio terminal with no further limitations and therefore are rejected on the

same basis as claim 8.

15.   As per claim 2, it is a network system that performs the steps of claims 3 and 8

above that do not teach or further define over the limitations of claims 3, and 8 above.

Therefore, it is rejected for the same reasons as set forth in claims 3, and 8 above.

16.   As per claim 4, Nounin teaches the packet relay device of claim 3, wherein the

communication interface is also configured to transmit a response message

corresponding to the request message obtained by the protocol processing in a form

that can be received by the radio terminal through the second sub-network (col. 8, lines 50-57).

17.   As per claim 5, Nounin teaches the packet relay device of claim 4, wherein the communication interface is configured to transmit the response message by rewriting a destination address of the response message into an IP (Internet Protocol) address acquired by the radio terminal at a second sub-network side (col. 8, lines 50-57).

18.   As per claim 6, Nounin teaches the packet relay device of claim 4, wherein the communication interface is configured to transmit the response message by encapsulating the response message into an IP (Internet Protocol) packet destined to an IP address acquired by the radio terminal at a second sub-network side (col. 8, lines 54-57; *it's inherent within the teaching of Nounin that the relay device encapsulates the response message into an IP packet before transmitting the packet to the radio terminal*).

19.   As per claim 9, Nounin teaches the radio terminal of claim 8, wherein the second communication interface is also configured to receive the response message transmitted from the packet relay device through the second sub-network (col. 8, lines 54-57)).

20.   As per claim 10, Nounin teaches the radio terminal of claim 8, wherein when the

response message is an encapsulated IP packet, the second communication interface decapsulates the encapsulated IP packet so as to take out the response message and gives the response message taken out from the encapsulated IP packet to the processing unit (col. 8, lines 58-64; *it's inherent within the teaching of Nounin that the radio terminal decapsulates the encapsulated IP packet in order to interpret the data contained within the packet*).

21.   As per claim 11, Nounin teaches the radio terminal of claim 8, wherein the notification message is provided in a form of a specific message to be regularly transmitted by the radio base station or a specific node provided in the first sub-network, and the first communication interface is configured to acquire information indicating the existence or the address of the packet relay device by receiving the specific message regularly transmitted by the radio base station or the specific node (col. 36, lines 55-61; *radio base station sends out regular broadcast messages to the radio terminal to ascertain whether the terminal is within its cell area or not*).

22.   As per claim 12, Nounin teaches the radio terminal of claim 8, wherein the second communication interface transmits the request message in a form of a broadcast packet with respect to the first sub-network or a multicast packet with respect to a prescribed group of nodes on the first sub-network (col. 36, lines 63 – col. 37, lines 6; col. 35, lines 62-65; *radio terminal receives the broadcast message via the first sub-network and sends the request to the base station using the second sub-network*).

23.   As per claim 16, it is a packet processing method that performs the steps of

claims 3, 4 and 8 above that do not teach or further define over the limitations of claims

3, 4 and 8 above. Therefore, it is rejected for the same reasons as set forth in claims 3,

4, and 8 above.

Claim Rejections - 35 USC § 103

24.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

25.   Claim 7, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Nounin in view of "Official Notice".

26.   As per claim 7, Nounin teaches a system upon receiving a DHCP request from

the second interface of the mobile device, the system then decapsulates and processes

the request, and sends the response to the mobile device through the second sub-

network. Nounin does not explicitly disclose that the system sends the request to the

DHCP server for processing. "Official Notice" is taken that DHCP is a well known

protocol for initializing and assigning IP address to devices. It would have been obvious

to one of ordinary skill in the art to relay the request to a DHCP server in order to provide address assignment and data service for the mobile device that are compatible with multiple networks.

27.   As per claim 13, Nounin does not teach the second communication interface that transmits the DHCP (Dynamic Host Configuration Protocol), ARP, SLP, or IGMP request message with respect to the first sub-network. "Official Notice" is taken that DHCP, IGMP (Internet Group Management Protocol), ARP (Address Resolution Protocol), and SLP (Service Location Protocol) are well known protocols for initializing and assigning IP address to devices. It would have been obvious to one of ordinary skill in the art to use any of these protocols for servicing the request for IP address assignment and data service for the mobile device because it would have enabled the system to be compatible with multiple networks.

28.   As per claim 14, Nounin teaches upon receiving a response message corresponding to the request message, the processing unit sets the second communication interface as a transmission interface and the first communication interface as a reception interface with respect to an IP (Internet Protocol) address allocated to the radio terminal on the first sub-network that is contained in the response message (col. 8, lines 58 – col. 9, lines 12).

Conclusion

29.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Suzuki et al, 6,711,142; Boyle et al, 6,665,711; Nounin et al, 5,802,469; Tubbs et al, 6,567,855

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack P Nguyen whose telephone number is (703) 605-4299. The examiner can normally be reached on M-F 8:30-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (703) 305-8498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). jpn

Dung C. Dinh
Primary Examiner